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EXAMINER	
KIM, JUNG W	

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,188	DAHL, ULF	
	Examiner	Art Unit	
	Jung W. Kim	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-54,56-92 and 94-99* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-54,56-92 and 94-99* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4/01, 4/04, 10/13/04, 10/21/04, 3/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 18-54, 56-92 and 94-99 have been examined.

2. Applicant in the amendment, filed on May 18, 2005 added new claims 94-99.

3. Claims 1-18, 55 and 93 have been canceled.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Information Disclosure Statement

5. The information disclosure statement filed April 21, 2001 and March 23, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent, publication or other information listed that is not in the English language. It has been placed in the application file, but the foreign patent documents and the foreign publications referred to therein has not been considered.

6. The four initialed PTO-1449 forms filed on April 21, 2001 will be resubmitted with the instant Office action at Applicant's request.

Response to Arguments

7. Applicant's arguments filed May 18, 2005 have been fully considered but they are not persuasive.

8. In reply to applicants argument that the 103 rejection combining the references of Thomson and Denning is improper because the proposed modification changes the principle of operation of the Thomson reference (Remarks, pg. 14 and 15), the disclosure of Thomson and Denning show otherwise. Thomson discloses a data security system wherein user access to server tables are mediated with the use of a Security Table (table-S), which is joined with an access view to restrict requested data at least at the field level (sql queries also define other constraints including ranges of rows and inter table relations) depending on the access level of the user (Thomson, fig. 4 and related text). Denning discloses means of preventing access to data by encrypting each field of a record with a different key, which enables selected fields of a record to be decrypted without the decryption of the entire record (Denning, Introduction). Applicant's allegation that because Thomson allows users to directly access data using conventional software (Remarks, pg. 15, 3rd full paragraph) and Denning discloses storing the decryption key in the trusted interface, a bottleneck would ensue and guarantee increase latency of data access, and hence the modification changes the principle of operation of Thomson, is not valid. Decreased efficiency does not alter the principle requirements of operation of the Thomson reference, which is to

maintain secure access to views of the databases (col. 2:14-24, "Summary of the Invention"). The issue in *In re Ratti*, 270 F.2d 810 (CCPA 1959), which guides the interpretation of the statue of MPEP 2143.01, is directed to required characteristics of the inventions under deliberation. ("Patentee taught the device required rigidity for operation. [sic] whereas the claimed invention required resiliency" MPEP 2143.01 "The proposed modification cannot change the principle of operation of a reference") In the case of Thomson, the latency caused by a bottleneck is not an issue because Thomson also discloses the need for a central local for accessing data: all access by users are negotiated by the s-tables stored on the server computer.

9. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The use of encryption to hide stored values are notoriously well established in the art, any feature that encrypts the actual stored values adds a layer of security in addition to other security features, a desired quality of any electronic data security system. Moreover, the motivation of "enhancing security" is commensurate with the

broad limitations of the claimed invention, and hence adequately provides motivation to one of ordinary skill in the art.

10. Applicants argument that neither Denning nor Thomson discloses the limitation of "storing the first and second cryptographic information outside the table" as defined in claim 41, the limitation of "information stored outside the table" that includes "cryptographic information" as recited in claims 48, 86 and the limitation of "storing the first and second cryptographic information apart from the two columns of data" (Remarks, pg. 17), does not consider the implied features of the prior art. Denning discloses the use of a master key to generate field keys for the corresponding field and record; although Denning does not explicitly disclose where this master key, or for that matter the relevant field keys, is stored within the trusted interface, the only place this key can be located is outside the table, since the contents of the table are identified as being either non-sensitive or encrypted: storing an encryption key in the table defeats the purpose of encrypting the values in the table with the encryption key. Hence, implicit in the teachings of the prior art are the aforementioned limitations as recited in applicant's claims.

11. Finally, regarding applicant's argument that the Abraham prior art does not teach the missing disclosure of the claims because there is no reasonable expectation of success nor a motivation to combine the references, examiner respectfully disagrees. Key-encrypting keys are well known means in the art to secure the value of data

encrypting keys to prevent data keys from being disclosed and further to prevent the disclosure of sensitive information to unintended parties (the X9.17 standard defines an example of two types of keys: key-encrypting keys and data keys). The expressed teaching of Abraham of storing a key-encrypting key in several different areas underlines the level of one of ordinary skill in the art to store a key-encrypting key in an accessible but secure area. Moreover, as indicated above, the key-encrypting key is necessarily stored outside this table since the elements in the table are identified as being either non-sensitive or encrypted.

Claim Rejections - 35 USC § 103

12. Claims 18, 19, 21, 28, 29, 31, 33, 37, 41, 42, 48, 49, 56, 57, 59, 66-68, 70, 74, 75, 79, 80, 86 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson et al. U.S. Patent No. 5,751,949 (hereinafter Thomson) in view of Denning "Field Encryption and Authentication" (hereinafter Denning).

13. As per claim 18, Thomson discloses a data processing method comprising:

a. maintaining a database containing a table of data in row and column format (fig. 2 and related text);

b. maintaining, separate from the table of data, information for controlling access to a specified proper subset of data in the table (fig. 4 and related text); and

c. controlling access to the specified proper subset of data in the table according to the separately maintained information (figs. 5 and 6 and related text).

14. Thomson does not disclose at least a portion of the data being encrypted. Denning teaches a method of field encryption to secure information stored in tables having row and column format wherein each record is encrypted and stored using a distinct cryptographic key. Denning, page 233, section 2.2. The encryption technique ciphers each field of a record (a column in a table) with a distinct encryption key to prevent information from a record from being ascertained without the requisite key. As disclosed by Denning, enchipering at the field level enables a more selective means of hiding sensitive information (Denning, Introduction). It would be obvious to one of ordinary skill in the art at the time the invention was made for a portion of the data stored in a database containing a table of data in row and column format to be encrypted using distinct cryptographic keys for each record to establish a more secure database. Denning, page 233, sections 2.1 and 2.2. The aforementioned cover the limitations of claim 18.

15. As per claim 19, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, the step of controlling access comprises controlling access by a specified user or group of users. See Thomson, Figure 4, 'USER ID' and 'DEPT' columns. The aforementioned cover the limitations of claim 19.

16. As per claim 21, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, Thomson discloses a security table separate from the stored data. Thomson, col. 4, lines 44-54. Although Thomson does not expressly disclose making the security table inaccessible to a user seeking access to the data, means in the art to restrict access privileges to only tables relevant to a given user is a standard implementation in the art. For example, commercial databases, such as Oracle or Sybase, incorporate data dictionaries to define access privileges granted to a user on various schema objects (tables, views, indexes, synonyms). Examiner takes Official Notice of this teaching. It would be obvious to one of ordinary skill in the art at the time the invention was made for the separate table to be inaccessible to a user seeking access to the data. The motivation to combine enables access to security information on a need to know basis as known to one of ordinary skill in the art. The aforementioned cover the limitations of claim 21.

17. As per claim 28, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, the specified proper subset of data comprises a specified column of data. Thomson, fig. 4, 'USER ID' and figs. 5 and 6. The aforementioned cover the limitations of claim 28.

18. As per claim 29, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, the information for controlling access comprises information used in encrypting or decrypting data in the proper subset of

data. Thomson, fig. 4; Denning, page 233, section 2.2, 'Kij'. The aforementioned cover the limitations of claim 29.

19. As per claim 31, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). Thomson does not expressly teach the information for controlling access comprising information identifying an owner of the proper subset of data. However, data ownership is a typical attribute by which to define user access to data. For example, file access on commercial operation systems, such as UNIX, is restricted based on file ownership (user) and group membership. Examiner takes Official Notice of this teaching. It would be obvious to one of ordinary skill in the art at the time the invention was made for the information controlling access to comprise information identifying an owner of the proper subset of data. The motivation to combine enables metadata of stored data to identify user access privileges and to maintain data privacy as known to one of ordinary skill in the art. The aforementioned cover the limitations of claim 31.

20. As per claim 33, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, the method further comprises:

d. receiving a request for access to a particular data element in the table, the particular data element containing encrypted data (Thomson, fig. 3, 'USER REQUEST'; Denning, page 233, section 2.2);

e. obtaining, from the separately maintained data, cryptographic information associated with a proper subset of data in the table, the proper subset containing the particular data element (Thomson, Figure 4; Denning, pages 238 and 239, section 2.4); and

f. decrypting the data in the particular data element using the cryptographic information (Denning, page 239, 1st full paragraph).

The aforementioned cover the limitations of claim 33.

21. As per claim 37, Thomson covers a method as outlined above in the claim 33 rejection under 35 U.S.C. 103(a). In addition, the step of providing decrypted data from the particular data element further includes the step of providing decrypted data from the particular data element when the information from the separately maintained data indicates that the request for access to the particular data element is an authorized request. Thomson, figs. 5 and 6; Denning, pg. 239, 1st full paragraph. The aforementioned cover the limitations of claim 37.

22. As per claims 41 and 42, Thomson covers a method as outlined above in the claim 21 and 37 rejections under 35 U.S.C. 103(a). In addition, Denning teaches encrypting data in a first column using first cryptographic information and encrypting data in a second column using second cryptographic information. Denning, pg. 233, section 2.2, 2nd sentence. Further, as argued in the claim 20 rejection above, user

access restriction to security information is an obvious limitation. The aforementioned cover the limitations of claims 41 and 42.

23. As per claims 48 and 49, they are system claims corresponding to claim 21, and they do not teach or define above the information claimed in claim 21. Therefore, claims 48 and 49 are rejected as being unpatentable over Thomson in view of Denning for the same reasons set forth in the rejection of claim 21.

24. As per claim 56, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, Denning teaches the set of data as a collection of records having fields. Denning, Abstract. The aforementioned cover the limitations of claim 56.

25. As per claims 57, 59, 66-68, 70, 74 and 75, they are method claims corresponding to claims 18, 19, 21, 28, 29, 31, 33, 37 and 56, and they do not teach or define above the information claimed in claims 18, 19, 21, 28, 29, 31, 33, 37 and 56. Therefore, claims 57, 59, 66-68, 70, 74 and 75 are rejected as being unpatentable over Thomson in view of Denning for the same reasons set forth in the rejection of claims 18, 19, 21, 28, 29, 31, 33, 37 and 56.

26. As per claims 79, 80, 86 and 87, they are claims corresponding to claims 41, 42, 48 and 49, and they do not teach or define above the information claimed in claims 41,

42, 48 and 49. Therefore, claims 79, 80, 86 and 87 are rejected as being unpatentable over Thomson in view of Denning for the same reasons set forth in the rejection of claims 41, 42, 48 and 49.

27. As per claims 94-97, Thomson covers a method as outlined above in the claim 18, 41, 56 and 79 rejections under 35 U.S.C. 103(a). In addition, the step of controlling access to data in the first column comprises revealing unauthorized access to the data (pgs. 240-243, section 3, "Field Authentication"). It would be obvious to one of ordinary skill in the art at the time the invention was made for the method to reveal unauthorized access to data, since it is desirous to identify and prevent alteration of data by unauthorized users. Denning. Pg. 240, 3rd full paragraph. The aforementioned cover the limitations of claims 94-97.

28. As per claims 98 and 99, Thomson covers a system as outlined above in the claim 48, 86 and 94-97 rejections under 35 U.S.C. 103(a). In addition, the information for revealing unauthorized access to the database is stored outside the table (Denning, pg. 241, section 3.2 Solution, "Secret Key"; implied in the Denning reference is the storage of the key outside the table-all other elements in the table are either non-sensitive or encrypted). The aforementioned cover the limitations of claims 98 and 99.

29. Claims 20, 22, 43, 50, 58, 60, 81 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson in view of Denning, and further in view of Pfleeger Security in Computing (hereinafter Pfleeger).

30. As per claims 20 and 22, Thomson covers a method as outlined above in the claim 18 and 21 rejections under 35 U.S.C. 103(a). Thomson does not expressly disclose controlling access by a specified program or a group of programs. However, access control means to information stored in databases are conventionally known in the art to screen a user and/or a program. For example, Pfleeger teaches establishing access controls for a specific user or program. Pfleeger, pg. 306, 5th full paragraph 4th sentence. It would be obvious to one of ordinary skill in the art at the time the invention was made to control access by a specified program or group of programs since it is known in the art to establish database access control for a user or a program as taught by Pfleeger. Ibid. The aforementioned cover the limitations of claims 20 and 22.

31. As per claim 43, it is a method claim corresponding to claims 20, 22, 41 and 42, and it does not teach or define above the information claimed in claims 20, 22, 41 and 42. Therefore, claim 43 is rejected as being unpatentable over Thomson in view of Denning and Pfleeger for the same reasons set forth in the rejections of claims 20, 22, 41 and 42.

32. As per claim 50, it is a system claim corresponding to claim 22, and it does not teach or define above the information claimed in claim 22. Therefore, claim 50 is rejected as being unpatentable over Thomson in view of Denning and Pfleeger for the same reasons set forth in the rejection of claim 22.

33. As per claims 58 and 60, they are method claims corresponding to claims 20, 22 and 56, and they do not teach or define above the information claimed in claims 20, 22 and 56. Therefore, claims 58 and 60 are rejected as being unpatentable over Thomson in view of Denning and Pfleeger for the same reasons set forth in the rejections of claims 20, 22 and 56.

34. As per claims 81 and 88, they are claims corresponding to claims 43 and 50, and they do not teach or define above the information claimed in claims 43 and 50. Therefore, claims 81 and 88 are rejected as being unpatentable over Thomson in view of Denning and Pfleeger for the same reasons set forth in the rejections of claims 43 and 50.

35. Claims 23-27, 34-36, 38-40, 45-47, 52-54, 61-65, 71-73, 76-78, 83-85 and 90-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson in view of Denning, and further in view of Gaskell et al. "Improved Security for Smart Card Use in DCE" (hereinafter Gaskell).

36. As per claims 23-27, Thomson covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). Thomson does not teach using a tamper-resistant hardware module to perform a cryptographic operation on the data, wherein at least a portion of the separately maintained information is located on the hardware module, the hardware module comprises a hardware security module and the hardware module is selected from the group consisting of a hardware security appliance and a cryptographic card. Gaskell teaches incorporating smart cards into a data processing method to improve security by incorporating cryptographic authentication means, and decryption processes and keys stored within the smart devices. Gaskell, pg. 3, section 3.1. It would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate smart card technology within the method to provide more secure cryptographic authentication and secure communication between the user requesting access to a database and the database. Gaskell, section 1. The aforementioned cover the limitations of claims 23-27.

37. As per claims 34-36, they are method claims corresponding to claims 23-27 and 33, and they do not teach or define above the information claimed in claims 23-27 and 33. Therefore, claims 34-36 are rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 23-27 and 33.

38. As per claims 38-40, they are method claims corresponding to claims 23-27 and 37, and they do not teach or define above the information claimed in claims 23-27 and 37. Therefore, claims 38-40 are rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 23-27 and 37.

39. As per claims 45-47, they are method claims corresponding to claims 23-27 and 42, and they do not teach or define above the information claimed in claims 23-27 and 42. Therefore, claims 45-47 are rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 23-27 and 42.

40. As per claims 52-54, they are system claims corresponding to claims 23-27 and 48, and they do not teach or define above the information claimed in claims 23-27 and 48. Therefore, claims 52-54 are rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 23-27 and 48.

41. As per claims 61-65, 71-73 and 76-78, they are method claims corresponding to claims 23-27, 56, 70 and 75, and they do not teach or define above the information claimed in claims 23-27, 56, 70 and 75. Therefore, claims 61-65, 71-73 and 76-78 are

rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 23-27, 56, 70 and 75.

42. As per claims 83-85 and 90-92, they are claims corresponding to claims 45-47 and 52-54, and they do not teach or define above the information claimed in claims 45-47 and 52-54. Therefore, claims 83-85 and 90-92 are rejected as being unpatentable over Thomson in view of Denning and Gaskell for the same reasons set forth in the rejections of claims 45-47 and 52-57.

43. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson in view of Denning, and further in view of Johansson et al. International Publication Number WO 95/15628 (hereinafter Johansson).

44. As per claim 30, Thomson covers a method as outlined above in the claim 29 rejection under 35 U.S.C. 103(a). Thomson does not disclose the information used in encrypting or decrypting data comprises information identifying a way of encrypting or decrypting data in the proper subset of data. Johansson teaches storing information identifying a way of encrypting or decrypting data for given stored information. Johansson, pg. 6, lines 7-8; page 12, lines 9-14. It would be obvious to one of ordinary skill in the art at the time the invention was made for the information used in encrypting or decrypting data comprising information identifying a way of encrypting or decrypting data in the proper subset of data to ensure correct cryptographic processing wherein

encrypted data is re-encrypted using an encryption algorithm distinct from the original encryption algorithm. Johansson, pg. 2, last paragraph-page 3, first paragraph. The aforementioned cover the limitations of claim 30.

45. Claims 32, 44, 51, 69, 82 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomson in view of Denning, and further in view of Abraham et al. U.S. Patent No. 5,148,481 (hereinafter Abraham).

46. As per claim 32 and 44, Thomson covers a method as outlined above in the claim 18 and 41 rejections under 35 U.S.C. 103(a). Thomson does not expressly disclose the first and second information are stored, in encrypted form, outside of the table. Abraham teaches storing encrypted key values for encryption/decryption algorithms in a plurality of devices including cryptographic accelerators and smart cards. Abraham, col. 7, lines 42-50. It would be obvious to one of ordinary skill in the art at the time the invention was made for the first and second information to be stored, in encrypted form, outside of the table to secure cryptographic information used to secure data as known to one of ordinary skill in the art and as taught by Abraham. Ibid. The aforementioned cover the limitations of claims 32 and 44.

47. As per claim 51, it is a system claim corresponding to claims 32 and 48, and it does not teach or define above the information claimed in claims 32 and 48. Therefore,

claim 51 is rejected as being unpatentable over Thomson in view of Denning and Abraham for the same reasons set forth in the rejections of claims 32 and 48.

48. As per claim 69, it is a method claim corresponding to claims 32 and 56, and it does not teach or define above the information claimed in claims 32 and 56. Therefore, claim 69 is rejected as being unpatentable over Thomson in view of Denning and Abraham for the same reasons set forth in the rejections of claims 32 and 56.

49. As per claims 82 and 89, they are claims corresponding to claims 44 and 51, and they do not teach or define above the information claimed in claims 44 and 51. Therefore, claims 82 and 89 are rejected as being unpatentable over Thomson in view of Denning and Abraham for the same reasons set forth in the rejections of claims 44 and 51.

Conclusion

50. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communications Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W. Kim whose telephone number is (571) 272-3804. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jung W Kim
Examiner
Art Unit 2132

July 20, 2005

GILBERTO BARRON JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100